

1 1. A method of controlling a data head for reading data
 2 from a data track on a magnetic tape in a magnetic tape drive,
 3 comprising:
 4 determining signal quality for read data signals
 5 produced by a data head reading data from a data track; and
 6 adjusting the position of the data head relative to the
 7 data track using the signal quality.

1 2. The method of claim 1, wherein adjusting comprises:
 2 performing a seek operation that includes changing the
 3 position of the data head and determining changes in the
 4 signal quality corresponding to the changes in data head
 5 position until a predetermined level of improvement in the
 6 signal quality is achieved.

1 3. The method of claim 1, wherein changing the position of
 2 the data head comprises:
 3 stepping of the data head laterally across the data
 4 track.

1 4. The method of claim 3, wherein performing the seek
 2 operation further comprises:
 3 using the determined changes to determine direction and
 4 size of steps of the stepping.

1 5. The method of claim 4, wherein performing the seek
 2 operation further comprises:
 3 comparing each of the determined changes to a lower
 4 threshold; and
 5 comparing a current number of steps taken by the seek

2 generating the signal quality values for data read from
3 a data track.

1 12. The method of claim 1, wherein the signal quality
2 comprises error values.

1 13. The method of claim 12, wherein the error values are
2 indicative of errors between observed values and ideal values for
3 the read data.

1 14. An apparatus for controlling a data head to read data
2 from a data track on a magnetic tape in a magnetic tape drive,
3 comprising:

4 a stored computer program in memory instituting the
5 steps of:
6 determining signal quality for read data signals
7 produced by a data head reading data from a data track; and
8 adjusting the position of the data head relative to the
9 data track using the signal quality.

1 15. A tape drive system comprising:
2 a data head structure to produce read data signals from
3 data recorded on a data track of a tape;
4 a head stepper coupled to the data head structure;
5 a data channel unit to produce read data signal quality
6 values from the read data signals; and
7 a servo controller coupled to the head stepper and the
8 data channel unit, the servo control being configured to use
9 the signal quality values to control adjustment of the
10 position of the data head structure relative to the data track
11 by the head stepper.